

1 [0062]

ABSTRACT OF THE DISCLOSURE

2 [0063] We have discovered that exposure of a photoresist on a photomask substrate to
3 a vacuum after the photoresist has been exposed to imaging radiation results in improved
4 critical dimension uniformity of the developed photoresist. Exposure of the imaged
5 photoresist to vacuum is performed for a period of time sufficient to allow pattern critical
6 dimensions to reach equilibrium across the photoresist. The vacuum treatment process of
7 the invention is typically performed prior to the performance of a post-exposure bake
8 process and prior to development of the photoresist. We have also discovered that exposure
9 of a photoresist on a photomask substrate to a vacuum after the photoresist has been
10 developed results in an improvement in the line edge roughness of pattern openings that
11 have been formed through the photoresist layer thickness.